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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/539,441	06/20/2005	Kenichi Ishikawa	052090	6816

38834 7590 03/07/2007  
WESTERMAN, HATTORI, DANIELS & ADRIAN, LLP  
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SUITE 700  
WASHINGTON, DC 20036

EXAMINER
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LANGEL, WAYNE A

ART UNIT	PAPER NUMBER
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1754

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/07/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

# Office Action Summary

Application No.

10/539,441

Applicant(s)

ISHIKAWA ET AL.

Examiner

Wayne Langel

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 June 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 6-20-05, 9-22-05, 7-7-06, 9-22-05, 12-26-06
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_.

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The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hall et al in view of Perry's Chemical Engineers' Handbook. Hall et al disclose the general process recited in applicants' claims (see col. 2, line 24 to col. 3, line 24), and teach at col. 3, lines 10-24 that excess hydrogen sulfide is stripped out by sparging with air. The difference between the process disclosed by Hall et al, and that recited in applicants' claims, is that applicants' claims require that the hydrogen sulfide be stripped in a removal tower. Pages 14-2 to 14-8 of Perry's disclose that the apparatus for stripping gases from liquids may be a tower filled with irregular packing (see page 14-2), with a specific example of hydrogen sulfide stripping in Table 14-21 on page 14-6. It would be obvious from Perry's to strip the hydrogen sulfide in the process of Hall et al in a tower filled with irregular packing. One of ordinary skill in the art would be motivated to do so, since Hall et al imply that the hydrogen sulfide may be stripped in any known or conventional manner, and Perry's teaches that gas stripping from liquids is typically accomplished in towers filled with irregular packing.

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Claims 1-4 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over either Hall et al or JP 56-73608. No distinction is seen between the phosphoric acid recited in claims 1-4, and that disclosed by Hall et al and JP 56-73608. It would be expected that the phosphoric acid formed according to the process of Hall et al and JP 56-73608 would have the purity levels as recited in applicants' claims, since the purification processes of Hall et al and JP 56-73608 are substantially the same as that disclosed by applicants.

Claims 5-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 56-73608 in view of Hall et al, further in view of Perry's Chemical Engineers' Handbook. JP 56-73608 discloses a process for purifying phosphoric acid by contacting the acid with hydrogen sulfide, removing a deposit, and subjecting the separated solution to an oxidizing agent. (See the English Abstract.) The difference between the process disclosed by JP 56-73608, and that recited in claims 5-9, are that JP 56-73608 does not disclose that the oxidizing agent should be air and that the contact should take place in a packed tower. Hall et al disclose the general process recited in applicants' claims (see col. 2, line 24 to col. 3, line 24), and teach at col. 3, lines 10-24 that excess hydrogen sulfide is stripped out by sparging with air. Pages 14-2 to 14-8 of Perry's disclose that the apparatus for stripping gases from liquids may be a tower filled with irregular packing (see page 14-2), with a specific example of hydrogen sulfide stripping in Table 14-21 on page 14-6. It would be obvious from Hall et al to employ air as the oxidizing agent in the process of JP 56-73608. One of ordinary skill in the art would be motivated to do so, since it is well-known that air is a conventional and readily available oxidizing

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agent, and Hall et al specifically disclose its use in stripping hydrogen sulfide from phosphoric acid. It would be further obvious from Perry's to strip the hydrogen sulfide in a tower filled with irregular packing. One of ordinary skill in the art would be motivated to do so, since Hall et al imply that the hydrogen sulfide may be stripped in any known or conventional manner, and Perry's teaches that gas stripping from liquids is typically accomplished in towers filled with irregular packing.

Claims 4, 8 and 9 are rejected under 35 USC 112 paragraph 5 in constituting multiple dependent claims which depend from other multiple dependent claims.

The Drawing and specification are objected to under 37 CFR 1.84 (u) (1) in referring to the sole figure as "Fig. 1".

Schrodter is made of record for disclosing the precipitation of heavy metal sulfides from phosphoric acid at temperatures below 60 C at col. 2, lines 31-40.

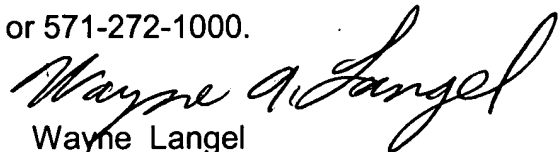
Bierman et al is made of record for disclosing the precipitation of heavy metal sulfides from phosphoric acid.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wayne Langel whose telephone number is 571-272-1353. The examiner can normally be reached on Monday through Friday, 8 am - 3:30 pm Eastern Time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman can be reached on 571-272-1358. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

A handwritten signature in black ink, reading "Wayne Langel". The signature is fluid and cursive, with the first name "Wayne" and last name "Langel" clearly distinguishable.

Wayne Langel  
Primary Examiner  
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